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Search Results -

Terms	Documents
(provid$3 with (information or product))and ((desir$ with pric$) or (highe$ with pric$) or (maxim$ with pric$) or (price with (margin or boundary or edge))) and (continu$ with auction)	0

Database:

US Patents Full-Text Database
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IBM Technical Disclosure Bulletins

Refine Search:
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(provid$3 with (information or
product))and ((desir$ with pric$) or
(highe$ with pric$) or (maxim$ with
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Clear

Search History

Today's Date: 9/26/2000

DB Name	Query	Hit Count	Set Name
JPAB,EPAB,DWPI,TDBD	(provid$3 with (information or product))and ((desir$ with pric$) or (highe$ with pric$) or (maxim$ with pric$) or (price with (margin or boundary or edge))) and (continu$ with auction)	0	L5
USPT	l1 and (continu$ with auction)	2	L4
USPT	l1 and ((desir$ with pric$) or (highe$ with pric$) or (maxim$ with pric$) or (price with (margin or boundary or edge)))	5	L3
USPT	l1 and (provid$3 with (information or product))	2	L2
USPT	4789928.pn. or 5835896.pn. or 5845265.pn. or 3581072.pn. or 6026383.pn.	5	L1

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L3: Entry 3 of 5   File: USPT   Nov 10, 1998

US-PAT-NO: 5835896
DOCUMENT-IDENTIFIER: US 5835896 A

TITLE: Method and system for processing and transmitting electronic auction information

DATE-ISSUED: November 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fisher; Alan S.	Fremont	CA	N/A	N/A
Kaplan; Samuel Jerrold	Hillsborough	CA	N/A	N/A

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Onsale, Inc.	Menlo Park	CA	N/A	N/A	02

APPL-NO: 8/ 623654
DATE FILED: March 29, 1996

INT-CL: [6] G06F 15/300
US-CL-ISSUED: 705/37; 705/27
US-CL-CURRENT: 705/37; 705/27
FIELD-OF-SEARCH: 395/201, 395/226, 395/227, 395/237, 395/244, 395/240, 283/56, 340/825.26, 340/825.27, 340/825.28, 340/825.29, 902/22, 902/24, 379/91-93, 705/1, 705/26, 705/27, 705/37, 705/44

REF-CITED:

U.S. PATENT DOCUMENTS

Search Selected | Search ALL

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3581072	May 1971	Nymeyer	395/237
☐	4677552	June 1987	Sibley, Jr.	395/237
☐	4799156	January 1989	Shavit	395/226
☐	4903201	February 1990	Wagner	395/237
☐	5063507	November 1991	Lindsey et al.	395/226
☐	5101353	March 1992	Lupien et al.	395/237
☐	5136501	August 1992	Silverman et al.	395/237
☐	5168446	December 1992	Wiseman	395/237
☐	5243515	September 1993	Lee	395/237
☐	5258908	November 1993	Hartheimer et al.	395/237
☐	5305200	April 1994	Hartheimer et al.	395/237
☐	5325297	June 1994	Bird et al.	395/792
☐	5329589	July 1994	Fraser et al.	379/91
☐	5375055	December 1994	Togher et al.	395/237
☐	5394324	February 1995	Clearwater	395/208
☐	5426281	June 1995	Abecassis	235/379

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY
2 658 635 A	August 1991	FRX
9 300 266 A	September 1994	NLX
WO 92 15174 A	September 1992	WOX
WO 96 34356 A	October 1996	WOX

OTHER PUBLICATIONS

"Onsale: Onsale brings thrill of Auctions and Bargin hunting online; unique internet retail service debuts with week-long charity auction for the Computer Museum in Boston", Business Editors/Computer Wriuters, May 24, 1995, Dialog file 610, Accession No. 0489267.
Dialog(R) File 610:Business Wire (c) 1997 Business Wire, "Onsale: Onsale Brings Thrill of Auctions and Bargain Hunting Online: Unique Internet retail service debuts with week-long charity auction for The Computer Museum in Boston", Mountain View, CA, May 22, 1995.
Dialog(R) File 16:Promt(R) (c) 1995 Information Access Co., "Car auction reaches into space", Automotive News, Nov. 25, 1991, p. 6.
Dialog(R) File 609:KR/T Bus. News (c) 1995 Knight-Ridder/Tribune Bus News., "California Computer Auctions No Boon For Bargain Hunters", Sep. 13, 1993, by Tom Schmitz, San Jose Mercury News, Calif.

ART-UNIT: 271
PRIMARY-EXAMINER: Poinvil; Frantzy
ATTY-AGENT-FIRM: Tachner; Adam H. Crosby, Heafey, Roach & May

ABSTRACT:

A system and method for conducting a multi-person, interactive auction, in a variety of formats, without using a human auctioneer to conduct the auction. The system is preferably implemented in software. The system allows a group of bidders to interactively place bids over a computer or communications network. Those bids are recorded by the system and the bidders are updated with the

current auction status information. When appropriate, the system closes the auction from further bidding and notifies the winning bidders and losers as to the auction outcome.

4 Claims, 14 Drawing figures

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L3: Entry 1 of 5   File: USPT   Feb 15, 2000

US-PAT-NO: 6026383
DOCUMENT-IDENTIFIER: US 6026383 A

TITLE: System and method for an efficient dynamic auction for multiple objects

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ausubel; Lawrence M.	NW. Washington	DC	20008	N/A

APPL-NO: 8/ 582901
DATE FILED: January 4, 1996

INT-CL: [7] G06F 157/00
US-CL-ISSUED: 705/37
US-CL-CURRENT: 705/37
FIELD-OF-SEARCH: 364/479.06, 705/10, 705/26, 705/35, 705/37, 707/104, 707/5, 707/10

REF-CITED:

U.S. PATENT DOCUMENTS

| Search Selected | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	5235680	August 1993	Bijnagte	395/161
☐	5283731	February 1994	Lalonde et al.	364/401

FOREIGN PATENT DOCUMENTS

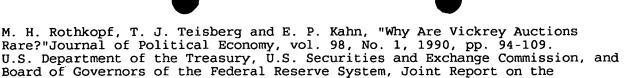| FOREIGN-PAT-NO	PUBN-DATE	COUNTRY
WO 96/34356	October 1996	WOX

OTHER PUBLICATIONS

J. S. Banks, J. O. Ledyard and D. P. Porter, "Allocating Uncertain and Unresponsive Resources: An Experimental Approach", Rand Journal of Economics, vol. 20, No. 1, Spring 1989, pp. 1-25.
G. Demange, D. Gale and M. Sotomayer, "Multi-Item Auctions", Journal of Political Economy, vol. 94, No. 4, 1986, pp. 863-872.
F. Gul and E. Stacchetti, "English Auctions with Multiple Goods", Princeton University and The University of Michigan, Mimeo, Oct. 12, 1995, pp. 1-20.
R. P. McAfee and J. McMillan, "Auctions and Bidding", Journal of Economic Literature, vol. 25, Jun. 1987, pp. 699-738.
K. A. McCabe, S. J. Rassenti and V. L. Smith, "Testing Vickrey's and Other Simultaneous Multiple Unit Versions of the English Auction," Research in Experimental Economics, vol. 4, Greenwich, CT: JAI Press, 1991, pp. 45-79.
F. M. Menezes, Four Essays on Auction Theory, University of Illinois doctoral dissertation, Feb. 1993, pp. 1-97 and 143-152.
P. R. Milgrom and R. J. Weber, "A Theory of Auctions and Competitive Bidding," Econometrica, vol. 50, No. 5Sep. 1982, pp. 1089-1122.

M. H. Rothkopf, T. J. Teisberg and E. P. Kahn, "Why Are Vickrey Auctions Rare?"Journal of Political Economy, vol. 98, No. 1, 1990, pp. 94-109.
U.S. Department of the Treasury, U.S. Securities and Exchange Commission, and Board of Governors of the Federal Reserve System, Joint Report on the Government Securities Market, Washington, D.C. : U.S.G.P.O., Jan. 1992, pp. ix-xvi, 1-34, B-17-B-24.
W. Vickrey, "Counterspeculation, Auctions, and Competitive Sealed Tenders," Journal of Finance, vol. 16, 1961, pp. 8-37.
W. Vickrey, "Auctions and Bidding Games", Recent Advances in Game Theory, Princeton: Princeton University Conference, 1962, pp. 15-29.
W. Vickrey, "Auctions, Markets, and Optimal Allocation", Bidding and Auctioning for Procurement and Allocation, New York: New York University Press 1976, pp. 13-20.
R. J. Weber, "Multiple-Object Auctions", Auctions, Bidding, and Contracting: Uses and Theory, New York: New York University Press, 1983, pp. 165-191.
R. Wilson, "Auction of Shares", Quarterly Journal of Economics, vol. 94, 1979, pp. 675-689.
F. M. Menezes, "Four Essays on Auction Theory", University of Illinois Doctoral Dissertation, pp. 1-97 and 143-152, Feb. 1993.
"Joint Report on the Government Securities Market", U.S. Department of theTreasury, pp. ix-xvi, 1-34, and B-17-B24, Jan. 1992.
R.J. Weber, "Multiple-Object Auctions", Auctions, Bidding, and Contracting: Uses and Theory, New York University Press, pp. 165-191, 1983.
W. Vickrey, "Counterspeculating, Auctions, and Competitive Sealed Tenders", Journal of Finance, v 16, pp. 8-37, 1961.

ART-UNIT: 271
PRIMARY-EXAMINER: Poinvil; Frantzy
ATTY-AGENT-FIRM: Morgan & Finnegan L.L.P.

ABSTRACT:

An automated system for conducting an auction and a method for operating the system. The system comprises a plurality of bid entry terminal and a bidding information processor communicatively coupled to the bid entry terminals. Bidders at the bid entry terminals observe displayed information and enter bids accordingly. The bidding information processor and the bid entry terminals communicate and process information in order to conduct an auction. The method involves conducting an auction in which the price paid by bidders is independent of their own bids, in which participants are provided with information concerning their competitors' bids as the auction progresses, and in which the confidentiality of high values is maintained.

25 Claims, 7 Drawing figures

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L3: Entry 2 of 5   File: USPT   Dec 1, 1998

US-PAT-NO: 5845265
DOCUMENT-IDENTIFIER: US 5845265 A

TITLE: Consignment nodes

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woolston; Thomas G.	Arlington	VA	N/A	N/A

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
MercExchange, L.L.C.	Alexandria	VA	N/A	N/A	02

APPL-NO: 8/ 554704
DATE FILED: November 7, 1995

PARENT-CASE:
BACKGROUND OF THE INVENTION This application is a continuation in part of U.S. patent application Ser. No. 08/427,820 filed Apr. 26, 1995, incorporated herein by reference in its entirety. The present invention relates to used and collectible goods offered for sale by an electronic network of consignment stores. More specifically, the present invention may be an electronic "market maker" for collectable and used goods, a means for electronic "presentment" of goods for sale, and an electronic agent to search the network for hard to find goods. In a second embodiment to the present invention, a low cost posting terminal allows the virtual presentment of goods to market and establishes a two tiered market of retail and wholesale sales.

INT-CL: [6] G06F 17/60
US-CL-ISSUED: 705/37; 705/27
US-CL-CURRENT: 705/37; 705/27
FIELD-OF-SEARCH: 395/226, 395/237, 395/227, 395/235, 395/236, 395/239, 235/383, 235/381, 705/26, 705/27, 705/35, 705/36, 705/37, 705/39

REF-CITED:

U.S. PATENT DOCUMENTS

| Search Selected | Search ALL |

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
4270042	May 1981	Case	235/379
4346442	August 1982	Musmanno	N/A
4674044	June 1987	Kalmus et al.	N/A
4739478	April 1988	Roberts et al.	N/A
4742457	May 1988	Leon et al.	N/A
4751640	June 1988	Lucas et al.	N/A
4789928	December 1988	Fujisaki	N/A
4799156	January 1989	Shavit et al.	N/A
4823265	April 1989	Nelson	N/A
4876648	October 1989	Lloyd	N/A
4885685	December 1989	Wolfberg et al.	N/A
4903201	February 1990	Wagner	N/A
4910676	March 1990	Alldredge	N/A
5063507	November 1991	Lindsey et al.	N/A
5101353	March 1992	Lupien et al.	N/A
5193056	March 1993	Boes	N/A
5206803	April 1993	Vitagliano et al.	N/A
5235680	August 1993	Bijnagte	N/A
5237500	August 1993	Perg et al.	N/A
5239462	August 1993	Jones et al.	N/A
5262942	November 1993	Earle	N/A
5283731	February 1994	Lalonde et al.	N/A
5285383	February 1994	Lindsey et al.	N/A
5323315	June 1994	Highbloom	N/A
5451998	September 1995	Hamrick	N/A
5465291	November 1995	Barrus et al.	N/A

OTHER PUBLICATIONS

Whitmore, S. "Business on the Net: the New Gold Rush", PC Week v12, n43, p. 106, Oct. 30, 1995.
Gordon, M. "Auctions Become High Tech", Dealer Business, v29, n7, p. 21, Mar. 1995.
Goulde, M., "Sun Microsystems Bringing Interactive Technology to the WWW," Open Information Systems, 10:3 p. 29, Mar. 1995.

ART-UNIT: 271
PRIMARY-EXAMINER: Weinhardt; Robert A.
ATTY-AGENT-FIRM: Woolston; Thomas G.

ABSTRACT:

A method and apparatus for creating a computerized market for used and collectible goods by use of a plurality of low cost posting terminals and a market maker computer in a legal framework that establishes a bailee relationship and consignment contract with a purchaser of a good at the market

maker computer that allows the purchaser to change the price of the good once the purchaser has purchased the good thereby to allow the purchaser to speculate on the price of collectibles in an electronic market for used goods while assuring the safe and trusted physical possession of a good with a vetted bailee.

29 Claims, 13 Drawing figures

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☐ | Generate Collection |

L3: Entry 4 of 5   File: USPT   Dec 6, 1988

US-PAT-NO: 4789928
DOCUMENT-IDENTIFIER: US 4789928 A

TITLE: Auction information transmission processing

DATE-ISSUED: December 6, 1988

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fujisaki; Masataka	Machida	N/A	N/A	JPX

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Flex Japan Inc.	Tokyo	N/A	N/A	JPX	03
Aucnet Inc.	Tokyo	N/A	N/A	JPX	03

APPL-NO: 7/ 008886
DATE FILED: January 30, 1987

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	61-033469	February 17, 1986

INT-CL: [4] G06F 7/38, G06F 3/14
US-CL-ISSUED: 364/401; 364/408
US-CL-CURRENT: 705/37
FIELD-OF-SEARCH: 364/401, 364/408, 340/825.02, 340/825.27, 370/94

REF-CITED:

U.S. PATENT DOCUMENTS

| Search Selected | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3581072	May 1971	Nymeyer	364/408
☐	3656148	April 1972	Belcher	340/825.27
☐	3944723	March 1976	Fong	340/825.02
☐	4445171	April 1984	Neches	370/94

ART-UNIT: 236
PRIMARY-EXAMINER: Smith; Jerry
ASSISTANT-EXAMINER: Hayes; Gail O.
ATTY-AGENT-FIRM: Armstrong, Nikaido, Marmelstein & Kubovcik

ABSTRACT:

An auction information transmission processing system is constructed by

connecting a most significant front computer to a host computer, arranging at least one stage of a plurality of intermediate front computers and a plurality of least significant front computers so as to be connectable to the most significant front computer in a tree-like configuration via communication lines, and arranging a plurality of dealer terminals so as to be connectable to each of the least significant front computers via communication lines. Each of the dealer terminals has basic pattern data storage means storing pattern data indicative of basic display screen pictures and exhibit data storage means storing data peculiar to articles on exhibit at an auction. When the system is started up, the host computer transmits a line connection signal to the front computers. After bidding starts, each of the front computers, in response to a command from the host computer, selects a predetermined number solely of bid-up signals from each of the dealer terminals and transmits these signals to a front computer. The most significant front computer selects only a predetermined number of bid-up signals and bids up the price of an exhibit being auctioned. After a pledge to buy an exhibit is made, the least significant front computers identify pledging members based on the member registration data, and data indicative of these members are transmitted to the front computers of higher significance.

5 Claims, 30 Drawing figures

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L3: Entry 5 of 5   File: USPT   May 25, 1971

US-PAT-NO: 3581072
DOCUMENT-IDENTIFIER: US 3581072 A

TITLE: AUCTION MARKET COMPUTATION SYSTEM

DATE-ISSUED: May 25, 1971

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Nymeyer; Frederick	Holland	IL	60473	N/A

APPL-NO: 4/ 723644
DATE FILED: March 28, 1968

PARENT-CASE:
This application is a continuation-in-part of the copending U.S. Pat.
application Ser. No. 317,026, filed Oct. 17, 1963, and now abandoned.

INT-CL: [] G06f 7/38
US-CL-ISSUED: 235/152; 340/149
US-CL-CURRENT: 705/37; 235/61M, 340/825.3
FIELD-OF-SEARCH: 235/152, 340/172.5, 340/146.2, 340/149, 340/152, 340/154

REF-CITED:

U.S. PATENT DOCUMENTS

| Search Selected | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	3015089	December 1961	Armstrong	340/172.5
☐	3159818	December 1964	Scantlin	340/172.5
☐	3229257	January 1966	Lubkin et al.	340/172.5

OTHER PUBLICATIONS

New York Stock Exchange Guide; Rule 115; Section 2115A 20; page 2731
The Specialist; published by the New York Stock Exchange
Von Boehm-Bawerk, Evgen: "Valve and Price" (An Extract), pp. 215--235 (An
extract from the three volume work "Capital and Interest"), Lidertarian Press,
South Holland, Illinois, 1960

ART-UNIT: 236
PRIMARY-EXAMINER: Morrison; Malcolm A.
ASSISTANT-EXAMINER: Malzahn; David H.
ATTY-AGENT-FIRM: Mason, Kolehmainer, Rathburn and Wyss

ABSTRACT:

A special purpose digital computer matches orders and establishes market prices
in an auction market for fungible goods. Priced orders to buy are arranged in

descending order by price and priced orders to sell are arranged in ascending order by price within each price range, all orders are arranged in descending order by time of placement so that the older orders are uppermost. All compatibly priced orders are then matched starting with the highest priced order to buy and the lowest priced order to sell and proceeding sequentially until all compatibly priced pairs of orders have been matched. The prices accompanying the last pair of orders to be matched are then used to establish a trading price for all of the matched pairs and a new market price for future transactions. Unpriced or "at market" orders are assigned prices based upon the market price, unless the market price is substantially below the prices of all priced buy orders or substantially above the price of all priced sell orders, in which case the unpriced orders are not assigned prices until a new market price has been established.

23 Claims, 12 Drawing figures

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L2: Entry 1 of 2   File: USPT   Dec 1, 1998

US-PAT-NO: 5845265 ✓
DOCUMENT-IDENTIFIER: US 5845265 A

TITLE: Consignment nodes

DATE-ISSUED: December 1, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Woolston; Thomas G.	Arlington	VA	N/A	N/A

ASSIGNEE INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
MercExchange, L.L.C.	Alexandria	VA	N/A	N/A	02

APPL-NO: 8/ 554704
DATE FILED: November 7, 1995

PARENT-CASE:
BACKGROUND OF THE INVENTION This application is a continuation in part of U.S.
patent application Ser. No. 08/427,820 filed Apr. 26, 1995, incorporated herein
by reference in its entirety. The present invention relates to used and
collectible goods offered for sale by an electronic network of consignment
stores. More specifically, the present invention may be an electronic "market
maker" for collectable and used goods, a means for electronic "presentment" of
goods for sale, and an electronic agent to search the network for hard to find
goods. In a second embodiment to the present invention, a low cost posting
terminal allows the virtual presentment of goods to market and establishes a
two tiered market of retail and wholesale sales.

INT-CL: [6] G06F 17/60
US-CL-ISSUED: 705/37; 705/27
US-CL-CURRENT: 705/37; 705/27
FIELD-OF-SEARCH: 395/226, 395/237, 395/227, 395/235, 395/236, 395/239, 235/383,
235/381, 705/26, 705/27, 705/35, 705/36, 705/37, 705/39

REF-CITED:

U.S. PATENT DOCUMENTS

| Search Selected | | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4270042	May 1981	Case	235/379
☐	4346442	August 1982	Musmanno	N/A
☐	4674044	June 1987	Kalmus et al.	N/A
☐	4739478	April 1988	Roberts et al.	N/A
☐	4742457	May 1988	Leon et al.	N/A
☐	4751640	June 1988	Lucas et al.	N/A
☐	4789928	December 1988	Fujisaki	N/A
☐	4799156	January 1989	Shavit et al.	N/A
☐	4823265	April 1989	Nelson	N/A
☐	4876648	October 1989	Lloyd	N/A
☐	4885685	December 1989	Wolfberg et al.	N/A
☐	4903201	February 1990	Wagner	N/A
☐	4910676	March 1990	Alldredge	N/A
☐	5063507	November 1991	Lindsey et al.	N/A
☐	5101353	March 1992	Lupien et al.	N/A
☐	5193056	March 1993	Boes	N/A
☐	5206803	April 1993	Vitagliano et al.	N/A
☐	5235680	August 1993	Bijnagte	N/A
☐	5237500	August 1993	Perg et al.	N/A
☐	5239462	August 1993	Jones et al.	N/A
☐	5262942	November 1993	Earle	N/A
☐	5283731	February 1994	Lalonde et al.	N/A
☐	5285383	February 1994	Lindsey et al.	N/A
☐	5323315	June 1994	Highbloom	N/A
☐	5451998	September 1995	Hamrick	N/A
☐	5465291	November 1995	Barrus et al.	N/A

OTHER PUBLICATIONS

Whitmore, S. "Business on the Net: the New Gold Rush", PC Week v12, n43, p. 106, Oct. 30, 1995.
Gordon, M. "Auctions Become High Tech", Dealer Business, v29, n7, p. 21, Mar. 1995.
Goulde, M., "Sun Microsystems Bringing Interactive Technology to the WWW," Open Information Systems, 10:3 p. 29, Mar. 1995.

ART-UNIT: 271
PRIMARY-EXAMINER: Weinhardt; Robert A.
ATTY-AGENT-FIRM: Woolston; Thomas G.

ABSTRACT:

A method and apparatus for creating a computerized market for used and collectible goods by use of a plurality of low cost posting terminals and a market maker computer in a legal framework that establishes a bailee relationship and consignment contract with a purchaser of a good at the market

maker computer that allows the purchaser to change the price of the good once the purchaser has purchased the good thereby to allow the purchaser to speculate on the price of collectibles in an electronic market for used goods while .assuring the safe and trusted physical possession of a good with a vetted bailee.

29 Claims, 13 Drawing figures

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L2: Entry 2 of 2   File: USPT   Dec 6, 1988

DOCUMENT-IDENTIFIER: US 4789928 A
TITLE: Auction information transmission processing

BSPR:
In accordance with the invention, the foregoing object is attained by
providing an information transmission processing system in an auction
information transmission system constructed by connecting a single most
significant front computer to a host computer, connecting a plurality of
intermediate front computers and a plurality of least significant front
computers to the most significant font computer in a tree-like configuration
via communication lines, and connecting a plurality of dealer terminals to
each of the least significant front computers via communication lines. Each
dealer terminal has basic pattern data storage means storing pattern data
indicative of a basic display screen picture and exhibit data storage means
storing data peculiar to articles on exhibit at the auction. When the system
is started up, the host computer transmits a line connection signal to the
front computers, whereby the host computer is connected to each of the front
computers. The host computer then transmits auction data such as member
registration data to the least significant front computers, and the data are
stored in these computers. Further, the least significant front computers are
connected to the dealer terminals, and data are extracted from the basic
pattern storage means and exhibit data storage means of the dealer terminals,
and these data are displayed on the corresponding display screen, in response
to a command from the host computer. The front computers select a
predetermined number of bid-up signals input thereto in a predetermined period
of time and bid up the price of the article being auctioned. After bidding
starts, each front computer selects a predetermined number solely of bid-up
signals from each dealer terminal in a predetermined period of time and
transmits these signals to the front computer of higher significance. The most
significant front computer selects a predetermined number of bid-up signals
input thereto in a predetermined period of time and bids up the price. A
pledge is deemed to be made when the price reaches a preregistered sell-off
price or in response to a sell-off signal issued by a seller. The least
significant front computers identify members, who have issued bid-up signals
at the time of a pledge, based on member registration data, and data
indicative of these members are transmitted to the front computers of higher
significance to decide a successful bidder.

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□ [Generate Collection]

L3: Entry 4 of 5   File: USPT   Dec 6, 1988

DOCUMENT-IDENTIFIER: US 4789928 A
TITLE: Auction information transmission processing

CLPR:
2. The information transmission processing system according to claim 1,
characterized in that after bidding starts, each of said front computers, in
response to a command from said host computer, selects a predetermined number
solely of bid-up signals, input thereto in a predetermined period of time,
from each of said dealer terminals and transmits these signals to a front
computer of higher significance, said most significant front computer selects
only a predetermined number of bid-up signals input thereto in a predetermined
period of time and bids up a price of an exhibit being auctioned, and after a
pledge to buy an ex████ ██ ████ said least significant front computers
identify pledging members based on the member registration data, and data
indicative of these members are transmitted to the front computers of higher
significance.

WEST

☐ | Generate Collection |

L4: Entry 1 of 2   File: USPT   Feb 15, 2000

DOCUMENT-IDENTIFIER: US 6026383 A
TITLE: System and method for an efficient dynamic auction for multiple objects

BSPR:
An auction in accordance with the present invention proceeds as follows:
First, the auctioneer determines a starting price and announces it to the
bidders. Each bidder responds with a bid indicating how many objects each
wishes to purchase at the current price. Typically, the total number of
objects desired by all the bidders is greater than the number of objects which
are available. In this case, the auctioneer determines whether any of the
objects should be assigned to any bidders in this round. This is done by
determining for each bidder, sequentially, whether the sum of the bids of all
the other bidders is less than the number of objects available. In other
words, is there is at least one object which is desired by only one bidder?
Those objects are then assigned to that bidder, obligating that bidder to
purchase them at the price standing at that time. If any objects remain
available, the auctioneer announces a new price and the auction continues.

DEPR:
In step 406, the BIP then determines whether any new bids were submitted. If
none were submitted, then the auction is concluded, and all remaining objects
are awarded to the current high bidders at the current high bids. If the
auction is not deemed concluded, the process continues with step 408, in which
the BIP next determines if any objects are to be assigned to any bidders. It
determines this by considering each bidder in turn. The BIP sums the
quantities associated with all bidders other than the one being considered. If
this sum is less than the number of available objects, the bidder is assigned
the units at a price based on the current high bid on these units. The objects
so assigned are subtracted from the number of available objects and are
removed from the set of objects on which bids will be accepted in subsequent
rounds of the auction.

WEST

End of Result Set

☐ | Generate Collection |

L4: Entry 2 of 2   File: USPT   Nov 10, 1998

DOCUMENT-IDENTIFIER: US 5835896 A
TITLE: Method and system for processing and transmitting electronic auction information

DEPR:
FIG. 6 provides a detailed illustration of the procedures carried out by auction manager 26. Auction manager 26 is preferably a continuously running system that begins by getting the current time as at step 51. It then checks to see if any new items for sale are to be opened by examining the merchandise database to see if any new merchandise items are scheduled to be made available for bidding by customers at or before the current time. Operator 300, or some automated substitute, may upload merchandise and scheduling information to the database, as shown in FIG. 1. If new merchandise items are scheduled for posting, these items are opened for bidding 52. The auction manager then examines the merchandise database to see if any merchandise items are scheduled to be closed from customer bidding. If so, these items are closed from bidding 53. Auction manager 26 then examines the merchandise database to see if any merchandise items posted with a price markdown feature are scheduled to have their prices adjusted. If so, the prices of these items are adjusted 54 in accordance with the particular item's price adjustment. parameters. Such parameters may include bidding activity over time, amount of bids received, and number of items bid for. Auction manager 26 then updates 55 the bid list for open items by recalculating the current high bidder list and regenerating the merchandise catalog pages 56 to reflect these new bids. This step is more fully described below with reference to FIG. 7.

WEST

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L3: Entry 1 of 5   File: USPT   Feb 15, 2000

DOCUMENT-IDENTIFIER: US 6026383 A
TITLE: System and method for an efficient dynamic auction for multiple objects

BSPR:
A second disadvantage of the sealed-bid format is that the auction process
effectively reveals the valuation of the highest bidder to the auctioneer.
Suppose that a broadcast license were to be sold by a second-price sealed-bid
auction (often known as the Vickrey auction, after Vickrey (1961), who
proposed an auction in which the auctioned object is awarded to the highest
bidder, but he is only charged the second-highest price). Say that Bidder A,
who valued the license the most, placed a value of $200 million on the
license, while Bidder B, the second-highest-valuation buyer, placed a value of
only $50 million on the license. If the auction process were fully
trustworthy, and if bids were kept fully confidential, Bidder A would like to
submit a sealed bid of $200 million, and Bidder B would like to bid $50
million. However, bidders may fear the following scenario. The seller, knowing
after the bidding that Bidder A actually values the license at $200 million,
may attempt to renege on the sale, and renegotiate the price above the $50
million established by the second-price auction. Alternatively, the seller,
after receiving the $200 million sealed bid, may surreptitiously plant a bogus
$199 million bid (or enlist a "shill" to insert a bid in his own name).
Finally, if the seller is the Government, the seller may fear the
public-relations disaster when it becomes generally known that it is selling a
public asset which Bidder A values at $200 million for a price which is a mere
quarter of that value.

DEPR:
FIG. 3 is a flow diagram of process 300 in accordance with another embodiment
of the present invention. Process 300 begins with step 302, in which each
participating bidder enters his demand curve into his respective bid entry
terminal. A demand curve is a table of the quantity which a bidder desires at
each possible price, that may be named in the course of the auction. One aspect
of this embodiment is that each bidder may also be allowed to enter contingent
demand curves. Contingent demand curves allow a bidder to vary his demand
curve based on the bidding history received from the bidding information
processor. For example, the quantity which a bidder demands at a particular
price may depend on the quantity which another bidder demanded at a previous
price.

DEPR:
Each demand curve or contingent demand curve entered is constrained to be
non-increasing. That is, the quantity demanded at a higher price is restricted
to be no more than the quantity demanded at any lower price, on any demand
curve or contingent demand curve entered.

DEPR:
FIG. 4 is a flow diagram of a process 400, in accordance with another
embodiment of the present invention. In this embodiment, the auction is
conducted differently. Instead of the auctioneer successively announcing
prices, the participants name their own bids on individual objects. This
embodiment requires an additional auction rule: If a bidder holds the high bid
on a plurality of the objects, then competitors are only permitted to bid on a
subset of those objects having the highest prices.

DEPR:
In step 410, the BIP updates its records of the current high bid on all
objects which have not yet been assigned. If a bid consists of a list of

specific objects and a price offered for each object, then the new high bid for each object is defined to equal the maximum of the previous high bid for that object and all new bids received in the current round for that object (using either a deterministic or a random method of breaking ties). If a bid consists of a quantity of objects and a price offered for that quantity, then the new bids are ranked in decreasing order of price, and all existing high bids are ranked in increasing order of price. New bids are assigned to replace existing high bids in these orders, up to the point where the highest unassigned new bid is less than the lowest remaining existing bid, or until all new bids are exhausted (using either a deterministic or a random method of breaking ties). Optionally, a different order of replacing existing high bids with new bids may be used.

CLPR:
9. The method of claim 1, wherein the transaction curves include supply curves constrained so that a quantity offered at a price is not larger than a quantity offered at a higher price.

CLPR:
21. The system of claim 15, wherein the transaction curves include supply curves constrained so that a quantity offered at a price is not larger than a quantity offered at a higher price.

WEST

☐   Generate Collection

L3: Entry 2 of 5   File: USPT   Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5845265 A
TITLE: Consignment nodes

BSPR:
The consignment node takes the first item to be auctioned and posts the image
of the good and the good's text record to the participants. The consignment
node then posts the opening bid. It is understood that the bid postings may be
in a protocol that invokes the generation of an auctioneer's voice at the
participant terminals. The participants may then respond with a higher bid.
The consignment node mode scans electronically the participants for bids and
accepts the highest bid. If bids are tied the consignment node may take the
first highest bid by the participants log on order. A particular bidding
participant receives a special acknowledgment from the consignment node that
her bid was accepted. The consignment node then posts the higher bid to all
the electronic auction participants. The consignment node repeats this process
until no higher bid is received for a predetermined amount of time and closes
the auctioning of that particular good. The consignment node then checks
whether the highest bid received is greater than the reserve price, if
appropriate. The consignment node may then post sold! and the sell price to
all participant terminals and proceed to post the next item for auction. Again
a successful purchaser may elect to direct delivery of the good or post the
good on the electronic market at a new participant determined offer price.

DEPR:
FIG. 4 shows the logical block flow diagram of the processes the consignment
node may take to execute an auction. It is understood that the consignment
node user may manually invoke the auction process, or may schedule the
consignment node to execute the auction process. The auction process begins by
initializing 250 the data structures, records, queues and the like to conduct
the auction process. The connection between the auction process and auction
participants is discussed below. The auction process gets the first item to be
auctioned 252 from the database of goods to be auctioned 254. The consignment
node then calculates the opening bid 256 by a predetermined formula such as
50% of the reserve or general solicitation of an opening bid is posted to the
auction participants 258. The consignment node auction mode then scans the
participants for a higher bids 262. If a higher bid is found the new bid is
posted 264. It is understood that the steps of checking for bids 260
determines if the bid is higher 262 and posting the new higher bid 264 is
repeated until no higher bids are received. After the typical auction closing
of going once . . . twice . . . three times the auction is closed 266. The
consignment node auction program then compares the highest bid received with
the good's reserve price 268 to determine whether to transact the sale. If the
highest bid is greater than the reserve price the consignment node auction
process posts sold! for xxx amount to the auction participants and calls the
transfer ownership subroutine 270, discussed further below, and transfers the
ownership of the good. If the highest bid is less than the reserve price the
consignment node auction process announces no sale! 272 to the auction
participants. The auction process then proceeds 274 to get the next good to be
auctioned 278. The consignment node auction process is then repeated until all
the goods to be auctioned have been run through 278. The consignment node
auction may then close and terminate the participant sessions 280. It is
understood that the transfer ownership 270 sub-routine may require time to
clear the transaction and, therefore, may be best implement as a spawned child
process to the auction process. This will keep the consignment node auction
executing at an exciting and fast pace for the participants. The consignment
node auction process itself may execute in several instances to provide
simultaneous auctions on a consignment node. Thus a consignment node may

conduct several simultaneous auctions on several virtual runways. It is understood that in the auction mode the consignment node and the participant interface software may communicate using a protocol that allows the consignment node auction driver to "point to" locations stored in the participant interface software, to cause the participant interface software to generate the sound of a auctioneers voice on the sound blaster, or equivalent board. Thus, the present invention uses pre-stored sound samples of different auction prices and auctioneer "string" along aural calls inside the participant interface software, and allows the generation of said pre-stored sound bites to be invoked by the consignment node driver through the said special protocol. This method greatly reduces the bandwidth necessary for a consignment node to support the generation of exciting auctioneers calls at a plurality of participant terminals. It is understood that the generation of an audio bit stream from the consignment node to the participant terminals is also with the scope of the present invention.

DEPR:
FIG. 6 shows the consignment node subroutine to check participant sessions for bids during the auction mode. Check for bids 350 maybe a subroutine called by the auction program to scan for bids. It is understood that when a participant logs into the consignment node and selects the auction mode, (see FIG. 2), the participant's session identification is passed to a data structure. The data structure maybe used by the check for bids 350 sub-routine to correctly identify participants at a particular virtual auction. As noted above, the consignment node may support multiple simultaneous auctions, therefore, may require multiple instances of the aforesaid data structure. The check for bids sub-routine 350 opens or connects to the appropriate data structure storing or holding participant session identifications who are participating in the check for bids calling auction program instance at the get session identification step 352. The buffers associated with each session is scanned for an input 354. If a participant has input an "exit" command or symbol 356 the routine removes that participant's session identification from the auction identifying data structure and allows the participant to exit 362 the auction. The participant's session identification may be returned to a data structure that allows the participant to return to the consignment nodes main menu, see FIG. 2, or terminate the participant session. The subroutine then compares the bids and takes the highest bid 358. If bids are tied for the highest bid the sub-routine may use the first received bid and reject the others 358. The sub-routine then notifies the participant session who had the highest bid 360. It is understood that the take the highest bid step 358 and notify bidder step 360 are aware of the current bid price for a good and will not allow a lower bid to be accepted. It is understood that the participant session buffers are flushed after they are scanned to remove old or latent bids. The check for bids sub-routine then returns to its calling routine.

DEPR:
The posting terminal 700 user enters descriptions such as the name of the item, the sale price of the item, and a brief description of the item and the like to compose a record. It is understood that a posting terminal user may enter a retail price and a wholesale price. The retail price may then be displayed to participants 900. Other retail participants 902 may receive the wholesale price. It is understood that this two-tiered pricing scheme may be used to network retail store owners to provide additional incentives for the retail participants to use the network to locate goods and generate sales at the retail point of sale. For example, a retailer may charge the retail price for goods to store customers, while obtaining the benefits, e.g. the profit margin of wholesale or discounted pricing for goods. It is understood that the restricted fields are coordinated with the structure of the For-Sale database 814 to guide a posting terminal 700 user in the proper selection of a market category and subcategory of the posting of a good. Categories may include jewelry, rugs and tapestry, tools, quilts, furniture, art deco, books, pens, coins, stamps and costumes and clothing. Subcategories may include painting and drawings, sculpture, vintage clothing, costumes, shoes, bags, hats, wedding gowns, furs, rug types and the like to structure the database. The user may also select from a list box what category and sub-category from restricted fields in which to post a good. Referring back to FIG. 12, the user may store a composed record on the storage device 710. The record maker routine may also contain a command button 706 to immediately post the record 708. It is understood that the user may designate a time at which the posting

terminal 700 may automatically contact the market maker computer 800 and post the selected goods. The post request 716 module may allow a user to select records from storage unit 710 or as in the case where the user selected the immediate post command 708, the post module 712 may accept a record as an input. The ability of the posting terminal 700 to store and select records for posting asynchronously from when a record is created allows a user to compose records when the posting terminal is isolated from communication with a market maker computer 800. The post module 712 may invoke the post request module 716 to post the designated records on the market and make a virtual presentment of a good. Rules and procedures may be imposed on the posting terminal 700 user through licensing and franchise agreements. Such rules may include the requirement that all goods posted must be in the physical and legal possession of the posting terminal franchisee or licensee, that legal possession of a good may be obtained by lawful ownership or through a franchise approved bailment or consignment contract. It is understood that these rules and legal frame work may be imposed to allow the posted record to convey a legal title to a good such that the ownership designated in the record grants lawful ownership to the good designated by the record. The post request module 716 may use a communication package and protocols to transfer the records to the market maker computer 800. Communication libraries are packaged and are commercially available from WCSC 2740 S. Dairy Ashfor, Suite 188, Houston Tex. 77077 and from Marshallsoft Computing, Inc. at P.O. Box 4543 Huntsville, Ala. 35815. The communication protocols such as FTP and KERMIT may be enhanced by using known encryption and authentication techniques to provide an ultra-secure posting interface. The posting record may also include a header that identifies a store identification, user identification, passwords and the like to allow the market maker computer 800 to verify authenticity, approve authorization and track usage of the posting terminal 700 by a particular posting terminal 700 and posting terminal user.

DEPR:
The market maker computer 800 may verify and accept a record and generate and send a unique bar code number for each record. The bar code number may contain a code that identifies a posting terminal 700. The posting terminal accepts the bar code and places the code in the appropriate record. The unique code generated for each successfully posted record may serve as confirmation that a good has been successfully posted. The record may then be stored on storage unit 722 as a confirmed posted record. When the posting terminals' post request module 716 is finished, the posting terminal 700 or the market maker computer 800 may invoke a mail update routine 720 to pass mail from the market maker computer 800 to the posting terminal 700. Mail topics may include sales information 734, network news 736, and notification of upcoming events 738. The de-post module 724 may use the bar code scanner 730 to receive a posted collectible's identification code. The de-post module 724 may call the de-post request routine 728 to establish communications between the posting terminal 700 and the market maker computer 800. The de-post request module 728 sends the item or collectible bar code to the post/de-post handler 802. The post/de-post handler 802 may remove the collectible identified by the bar code from the for-sale database 814, if the de-posting terminal identification has legal title to the identified collectible as indicated in a for-sale record, the market maker computer 800 may send a de-post confirm code to the posting terminal 700. The posting terminal 700 may process the confirm signal by indicating that the de-posting procedures was performed. If legal title to the posted collectible good does not belong to the de-posting requesting entity, e.g., the de-posting terminal 700 then indicated by the posting terminal identification, the market maker computer 800 may report the collectible good status, e.g., sold!, to the de-post request module 728. This may indicate to the posting terminal user that a bailee relationship now exists between the store and the new legal owner. It is understood that this bailee relationship may be contractually created and enforced through the franchise contract between the posting terminal user and the franchise granting authority. It is also understood that the bailee agreement may be for a predetermined time and/or require the posting terminal user to hold a good for a predetermined time and/or ship the good to a long term storage facility to ease the bailee burden of posting terminal users where a participant elects to hold legal ownership but keep the good available in the electronic market place for the long term. It is understood that a bond and/or insurance requirements may be required for the posting terminal user and/or the long term storage facility to provide assurance to a long term collectible investor that the risk of loss

of the collectable good asset is maintained or at least hedged against loss. It is understood that a good may have sold and the new owner has elected to re-sell the good at a higher price. In this instance, the de-posting terminal will be advised that the good has been sold and advised of the new sales price. The posting terminal may then transact the local sale at the new price. After the de-post request module 728 is finished it may invoke or the market maker computer 800 may invoke the get mail routine 720 to send mail between the market maker computer 800 and the posting terminal 700. It is understood that through the procedures of generating a unique code for each posted good, checking a unique code that identifies each posting terminal 700 against the legal owner entry in a posted good on the market maker computer 800 the database of for-sale goods 814 will be extremely reliable and accurate and assure that a locally sold goods that have already been sold on the market maker computer 800 will not be inadvertently sold twice. The procedures, when used in conjunction with the rules and procedures imposed on the posting terminal user through a franchising or licensing legal framework assure that (1) when a record of a good is found on the market maker computer 800 by a participant 900 or another retailer 902, it is in fact for-sale and is in the physical and legal possession of a "trusted" franchise and (2) that when a bona fide purchase price is tendered by a participant 900 or another retailer 902 the legal title to a good as represented by the record will transfer to the buyer with an immediate or nearly immediate finality to the transaction. This frame work of trusted franchisee, high confidence and accurate market database, and the legal finality of transaction, where the legal transaction/"cash" clearing function is performed by the market maker computer, e.g., the participant credit card number or other payment means is only revealed and brokered by the market maker computer 800, is a massive step toward building confidence and trust between a small collectable merchant and participant with electronic transactions. These procedures may be used to give assurances and create trust to participants, who for example would like to buy and art deco collectable from a collectable shop in Russia but is very reluctant to send credit card information to an unknown Russian collectable shop for the obvious concerns of credit card fraud and/or fraud in the bona fides of the collectable good itself. Here, however, the franchising authority polices the franchisees to revoke the franchise if a fraud and/or misrepresentations of the bona fides of a collectable good is taking place by the posting terminal user and the assurance that credit card numbers are only revealed to the market maker computer 800 and not accessible to the, in this example, the Russian collectable store. This allows the Russian collectible store to receive the business good will of the electronic collectible market place of the present invention to establish immediate trust with prospective electronic customers.

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L3: Entry 3 of 5   File: USPT   Nov 10, 1998

DOCUMENT-IDENTIFIER: US 5835896 A
TITLE: Method and system for processing and transmitting electronic auction
information

BSPR:
In the third group of patents related to electronic commerce, patents relating
to securities trading, U.S. Pat. No. 4,412,287 entitled Automated Stock
Exchange, and U.S. Pat. No. 5,077,665 entitled Distributed Matching System,
disclose means for prospective buyers to post offers to buy a given security
at a specific price and for prospective sellers to post offers to sell a given
security at a specific price. These automated systems maintain lists of buy
and sell orders. If an offer to buy a security is placed at a price greater
than or equal to an existing offer to sell that security at a given price,
these systems will automatically consummate the trade by matching the buyer
with the seller. While the securities industry uses, and these patents
disclose, such terms as "auction" and "bid", they are actually referring to
the process of matching a set of buyers' bids with a set of sellers' prices.
There is no auction in the true sense of a plurality of bidders simultaneously
bidding in a manner accessible to all bidders and sellers in order to achieve
a high selling price. In fact, these patented systems do not include
disclosure of the list of open buy or sell orders, thus depriving the seller
of the ability to openly solicit the highest price for securities. Instead,
the market price of securities sold through these automated systems fluctuates
up and down based upon the last successful match between an open buy order and
an open sell order when both the buyer and seller have placed orders at
compatible prices. There is no ability in such systems to conduct truly
competitive and open bidding.

BSPR:
A primary advantage of this system is that it results in greater prices for
merchants as well as broader distribution of their products. By incorporating
an auction format which is available to a wide audience via electronic means,
the inventive system and method results in more bidders, greater demand, and
hence higher prices for the seller. And because this electronic system reaches
a geographically diverse audience, merchants' product lines becomes visible in
areas where their products are not normally distributed or advertised,
resulting in increased sales volume without increased marketing expense. As
the network grows, business grows. Furthermore, the electronic auction system
is automatic and does not require a human auctioneer, thereby allowing many
individual items to be auctioned during the same time period and providing a
decrease in costs associated with running an auction. Indeed, it would not be
possible to operate an equivalent twenty-four hour per day, seven day per week
auction with potentially hundreds or even thousands of individual items and
millions of potential bidders without such an inventive electronic auction
method and system.

DEPR:
The electronic auction system of the present invention also provides a "Dutch
Auction" format, wherein the electronic auction system awards the merchandise
to all of the top bidders for whom there is available inventory at the price
bid by the lowest successful bidder. This format may be preferred by customers
for being the most fair when a plurality of a specific item is being
auctioned. As with all bidding, there will be a range of bids submitted. In
the Dutch Auction format, the highest bidders are awarded the merchandise but
at the same price for all successful bidders, the price bid by the lowest
successful bidder.

DEPR:
FIG. 10 illustrates the Dutch Auction format whereby bid manager 55 shown in
FIG. 6 determines which bids to mark 66 as successful or unsuccessful, as
shown in FIG. 7. Bid manager 55 begins by sorting 111 the bids by amount of
the bid. If there are bids remaining to be processed, as determined at step 97
the highest bid is selected 98 to be checked. If the bid is below the minimum
bid allowed for the particular merchandise item, as determined at step 93, the
bid is marked as unsuccessful 99. If not, the bid is checked 94 to see if the
bid quantity may be satisfied. If the bid cannot be satisfied, then the bid is
marked as unsuccessful at step 99. If the bid quantity can be satisfied, then
the bid is marked as successful at step 95 and the item quantity remaining is
decremented 96 by the bid quantity. At this time the MinWin price is recorded
117. The MinWin price is the price above which a new bidder must bid in order
to be successful in the Dutch Auction format were the auction to close at that
moment. The MinWin price is, in general, the bid price of the lowest bid that
is marked as successful. After recording the MinWin price at step 117, where
there are still bids remaining to be marked, as determined at step 97, the
next highest bid is selected 98 and the steps of FIG. 10 are repeated.

DEPR:
The electronic auction system of the present invention also includes a
"Progressive Auction" format, wherein the electronic auction system awards the
merchandise to the top bidders based on price bid. As with the Dutch Auction
format, the highest price bids are awarded the merchandise up to the quantity
available of the item being auctioned. However, unlike the Dutch Auction
format, the system awards the merchandise to the successful bidders at
different prices depending on the quantity bid. In a preferred embodiment, a
successful bidder for a single unit of an item is awarded the item at the
price of the lowest successful bid for a single unit of the item. A successful
bidder for a higher quantity of the same item is awarded the item at the price
of the lowest successful bid at that quantity or any lower quantity. For
example, a successful bidder for a quantity of five would pay the lowest price
for any successful bid for quantity one through five of the item. The price
paid for a given quantity is termed the "MinWin" price for that quantity. The
Progressive Auction format ensures that successful bidders for a quantity of
an item pay the lowest price paid by any other successful bidder at that
quantity level or below. Use of this format leads to lower prices for those
who successfully bid on larger quantities of an item, provides an impetus for
volume buying, and therefore leads to greater sales volume.

DEPR:
FIG. 11 illustrates the Progressive Auction format, wherein bid manager 55
shown in FIG. 6 determines which bids to mark as successful or unsuccessful 66
as shown in FIG. 7. Bid manager 55 begins by sorting 131 the bids by amount of
the bid. If there are bids remaining to be processed, as determined at step
97, the highest bid is selected 98 to be checked. If the bid is determined to
be below the minimum bid allowed for the particular merchandise item at step
93, the bid is marked as unsuccessful 99. If not, the bid is checked at step
94 to see if the bid quantity can be satisfied. If not, then the bid is marked
99 as unsuccessful. If the bid quantity is checked and found to be satisfied
at step 94, then the bid is marked as successful 95 and the item quantity
remaining is decremented 96 by the bid quantity. The MinWin price is then
recorded 137. The MinWin price is the price above which a new bidder must bid
in order to be successful in the Progressive Auction format were the auction
to close at that moment. The MinWin price is, in general, the bid price of the
lowest bid at the current bid quantity or lower that is marked as successful.
After recording the MinWin price 137, if there are still bids remaining to be
marked, the next highest bid is selected 98 and the steps of FIG. 11 are
repeated.

DEPR:
The electronic auction system of the present invention preferably includes a
"Proxy Bidding" feature that may be applied to any of the auction formats
described above. FIG. 7 fully describes auction manager 26 including the Proxy
Bidding feature. When Proxy Bidding is employed, a bidder places a bid for the
maximum amount they are willing to pay. The electronic auction system,
however, only displays the amount necessary to win the item up to the amount
of the currently high proxy bids of other bidders. Typically, the currently
high bids display an amount that is one bidding increment above the second

highest bid or bids, although a percentage above the second highest bids may be used as well. When a new bidder places a bid that is above a currently displayed high bid, the proxy feature will, in general, cause the currently high bid to move up to an amount higher than the new bid, up to the maximum amount of the currently high bidder's proxy bid. Once a new bidder places a bid in excess of the currently high bidder's proxy bid, the new bid becomes the current high bid and the previous high bid becomes the second highest bid. This feature allows bidders to participate in the electronic auction without revealing to the other bidders the extent to which they are willing to increase their bids, while maintaining control of their maximum bid without closely monitoring the bidding. Participation is engaged in automatically on the bidder's behalf by the inventive system. The feature guarantees proxy bidders the lowest possible price up to a specified maximum without requiring frequent inquiries as to the state of the bidding.

WEST

End of Result Set

☐ [Generate Collection]

L3: Entry 5 of 5   File: USPT   May 25, 1971

DOCUMENT-IDENTIFIER: US 3581072 A
TITLE: AUCTION MARKET COMPUTATION SYSTEM

ABPL:
A special purpose digital computer matches orders and establishes market
prices in an auction market for fungible goods. Priced orders to buy are
arranged in descending order by price and priced orders to sell are arranged
in ascending order by price within each price range, all orders are arranged
in descending order by time of placement so that the older orders are
uppermost. All compatibly priced orders are then matched starting with the
highest priced order to buy and the lowest priced order to sell and proceeding
sequentially until all compatibly priced pairs of orders have been matched.
The prices accompanying the last pair of orders to be matched are then used to
establish a trading price for all of the matched pairs and a new market price
for future transactions. Unpriced or "at market" orders are assigned prices
based upon the market price, unless the market price is substantially below
the prices of all priced buy orders or substantially above the price of all
priced sell orders, in which case the unpriced orders are not assigned prices
until a new market price has been established.

BSPR:
Accordingly, the present invention relates to a computation system for
establishing prices for a given kind of fungible goods in an auction market;
this computation system comprises a main data store for recording encoded data
items representative of orders to buy and to sell the goods, such orders
including orders at specific prices and other orders "at the market." The
system includes a buy order sequencing device for arranging and recording
purchase offers first in descending order by price and secondly by time of
entry so that at each price level the oldest orders are uppermost. A sell
order sequencing device is provided for arranging and recording all offers to
sell first in ascending order by price and secondly in descending order by
time so that once again the oldest orders are the highest at each price level.
A closing price store is provided to record the last actual selling price for
the goods. The closing price store and the main data store are coupled, by
suitable control means, to the sequencing devices in order to transfer the
recorded data items from the data store to the sequencing devices with "at
market" prices being transferred at the aforementioned last selling price. The
two sequencing devices are coupled to a comparator that compares the sell
orders and the buy orders, when they have been arranged in sequence, to
determine the lowest buy order price that is equal to or greater than a
recorded sell order and thus establish a new selling price for the goods.

DEPR:
One manner in which this can be done is to enter the "at market" buy orders at
a price slightly higher than the last sale price; in the following example, a
price of $18.25 is employed. If this is done, the sell orders should be
entered at a price correspondingly lower than the last sale price as, for
example, $17.75. The increment selected for increasing the buy orders and
decreasing the sell orders from the last market price should preferably be no
more than the smallest fractional value normally utilized in transactions in
the particular market in which the computation system 10 is employed. The
resulting sequences of buy and sell orders, as recorded in the two sequencer
circuits, are shown in Table 2.

DEPR:

Instead, at this point in the operation of the computation system, the correction gate 36 is actuated from the program control unit and causes the price comparator 31 to step through the sequence of sell orders by a number of lots equal to the excess of the "at market" buy orders over sell orders, as determined by correction counter 35. In each step, the selling order is compared with the bid price F of $20.00 to make sure that the sell order is still at or below that price. As shown in Table 6, after stepping through four lots, the sell order price G is still $19.75, below the $20.00 bid F. As can be seen from Tables 5 and 6, this makes it possible to move 1200 shares at a price of $20.00 as compared with the preceeding closing price of $18.00, establishing a new market price reflecting the substantial change in business conditions. It should be noted that if there had been a larger number of buyers available "at market," then all of the shares offered could have been sold at the ultimate price determination of $20.00. On the other hand, if there had been further specific orders to sell at prices higher than $20.00, these sales would not have been completed.

DEPR:
It is not essential that the means employed to inhibit transfer of "at market" orders to the sequencer circuits 28 and 29, in this instance the market comparator 39, program control 37 and price gate 19, be rigidly tied to the closing price in their operation. In a slowly rising or slowly falling market, it may well serve to stabilize the market if some margin is allowed in operation of this inhibiting circuitry. Thus, it is a relatively simple matter to construct comparator 39 to compare the buy orders with a price incrementally lower than the actual closing price and to compare sell orders with a price incrementally higher. Taking an increment of $0.25 with respect to the stock PDQ, in the examples above, the market comparator could permit use of "at market" orders for price determination in the presence of specific buy orders as high as $17.75 and specific sell orders as low as $18.25, without departure from the basic inventive concept. Indeed, a margin provision of this kind can have a salutary effect in stabilizing price fluctuations, providing the price increment is not excessive as compared with the selling price of the goods.
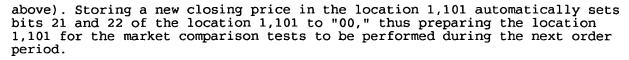
DEPR:
The system 100 continues to bring forth orders from drum storage and to place them in the buy and sell order lot storage areas 256 and 258 (FIG. 8B) until all the orders to trade the stock ATT have been retrieved. Each time a new order is brought forth and placed in one of the lot storage areas 256 or 258, it is interchanged with the orders adjacent itself until it finds its proper position among the other orders in accordance with the present invention. The test for determining whether or not sell orders should be interchanged is performed in the manner described above. The exact same test is used to check the sequencing of the buy orders, so that after sequencing the location 14,000 contains the lowest number, the location 14,002 contains the next lowest number, and so on. Since the contents of the location 14,000 is the 1's complement of the price accompanying an order to buy, the buy orders are thus arranged so that the order to buy at the highest price occupies the locations 14,000 and 14,001, the order to buy at the next highest price occupies the locations 14,002 and 14,003 and so on. Orders having identical prices are stored in the order in which they were received, since the sequencing of such orders is not altered.

DEPR:
This comparison procedure is repeated until an incompatible pair is found, i.e., pair in which the price accompanying the sell order is higher than the price accompanying the buy order. When such an incompatible pair is encountered, all possible trades have been carried out. The price accompanying the lowest priced order to buy that was successfully traded is now adopted as the trading price for all of the compatible pairs. This price is found in 1--s complement form stored in the first of the two storage locations occupied by the lowest priced order to buy that was successfully traded. This price also becomes a new closing price, and is stored in the storage location number 1,101 within the closing price storage area 252 (FIG. 8A). If the new closing price is different from the prior closing price, the new closing price is placed in a special section of core storage where all market price changes are recorded. (If the result of the market comparison tests had been "00," no change would be made in the former closing price or market price, as noted

above). Storing a new closing price in the location 1,101 automatically sets bits 21 and 22 of the location 1,101 to "00," thus preparing the location 1,101 for the market comparison tests to be performed during the next order period.

DEPR:
In the system 100 (FIG. 4), the price comparison and the lot storage sequence comparison tests are performed within the central processing unit 102 (FIG. 4). The market comparison test is performed within a separate market comparator 39 which is shown diagrammatically in FIG. 7. The comparator 39 is constructed to compare the price accompanying orders to buy with a price incrementally lower than the market price, and to compare the price accompanying orders to sell with a price incrementally higher than the market price. The comparator 39 includes a market price index register 300, a buy-sell price index register 302, a margin register 304, four 15-bit binary full adder circuits 306, 308, 3-10 and 312, two AND gates 314 and 316, and a NOT gate 318. The binary full adder circuits 306--312 can be similar to those described on pages 83--98 of the book by Richards, cited above. The two AND gates 314 and 316 can be identical with the AND circuit illustrated in FIG. 2-2 (b) on page 32 of the book by Richards. The NOT circuit can be a simple one transistor inventor circuit, similar to the inventor circuit shown in FIG. 11--10 of the book Computer Handbook by Huskey and Korn, published in 1962 by McGraw-Hill Book Company, Inc. The index registers can contain 15 symmetrical transistor flip-flops similar to the flip-flop illustrated in FIG. 2A on page 161 of Electronics, Volume 29, Number 5, published in May of 1956 by McGraw-Hill Publishing Co., Inc. Each such flip-flop includes a normal output terminal, an inverted or 1's complement output terminal, and a set input terminal.

DEPR:
The margin register 304 has a thirteen terminal output 326 that represents a binary number called the margin number. As explained above, small price fluctuations can be stabilized by adding to or by subtracting from the market price a small margin number before performing the market comparison test. Each of the 13 terminals comprising the output 326 is connected either to a positive potential point or to a ground potential point within the margin register 304.

DEPR:
As soon as the above information is placed into the registers 300 and 302, the market comparison test is automatically performed. If the order is a priced order to sell, and if the selling price is greater than or equal to the market price minus the margin number, then a positive potential is applied to the set first bit terminal 378, and a "1" is placed into the first flip-flop within the market price index register 300. This "1" appears at terminal 1, normal output 322, market price index register 300. If the order is a priced order to buy, and if the market price plus the margin number is greater than or equal to the selling price, then a positive potential is applied to the set second bit terminal 380, and a "1" is placed into the second flip-flop within the market price index register 300. This "1" appears at terminal 2, normal output 322, market price index register 300. The number occupying the market price index register 300 is now gated back into bit locations 32--35 of the storage location within the closing price storage area 252 (FIG. 8A) where the most recent closing price and the result of prior market comparison tests for the given stock are stored. This completes the market comparison test procedure.

DEPR:
When the order period comes to an end, the bit locations 21 of the storage location containing the market comparison tests result contains a "1" if and only if at least one order to sell stock at a price that is equal to or greater than the market price minus the margin number has been received. The bit location 22 of the same storage location contains a "1" if and only if at least one order to buy stock at a price that is less than or equal to the market price plus the margin has been received. When the trading period beings, the contents of these two bit locations can be used as explained above to determine whether or not the "at market" orders are to be placed into lot storage areas along with the priced orders, or whether they are to be stored separately.

DEPR:
If the contents of bit locations 21--35 of the first 36-bit order word in an
order to trade a given stock are placed into the buy-sell price index register
302, as explained above, and if the contents of bit locations 21--35 of the
storage location containing the most recent closing price or market price for
the given stock are placed into the market price index register 300, a binary
number equal in value to the market price appears at terminals 3--15, normal
output 322, market price index register 300. The binary number is applied to
terminals 3--15, second input 330, first adder 306. The margin number is
already present at terminals 3--15, first input 328, first adder 306. The
first adder 306 therefore generates a binary number equal to the sum of these
two numbers, and applied this sum to terminals 1--15, output 332, first adder
306. The number appearing at the output 332 and applied to terminals 1--15,
first input 348, third adder 310 is the sum of the market_price for the given
stock plus the margin number.

DEPR:
A binary number equal in value to the 1's complement of the market price of
the given stock appears at terminals 3--15, one's complement output 324, of
the market price index register 300. This binary number is applied to
terminals 3--15, second input 340, second adder 308. Terminals 1--2, second
input 340, second adder 308 are already positive, and fill out the remaining
two bits of the 1's complement number applied to the second input 340. Carry
input 344, second adder 308 is positive, and this adds "1" to the sum
appearing at output 342, second adder 308. The margin number is already
present at terminals 3--15, first input 338, second adder 308. The second
adder 308 therefore generates a binary number equal to the sum of the two
input numbers, plus "1" due to the positive potential at the carry input
terminal 344. In accordance with the principles of complement arithmetic, this
sum is equal numerically to the 2's complement of the market price minus the
margin number. The number appearing at the output 342 and applies to terminals
1--15, first input 382, fourth adder 312, is this sum.

DEPR:
If the order being tested is a priced order to sell, the price accompanying
the order, which occupies bit locations 23--35 of the first 36-bit order word
(see the word 220 in FIG. 6), is present in the form of a binary number
appearing at terminals 3--15, output 320, buy-sell price index register 302.
This binary number is applied to terminals 3--15, second input 384, fourth
adder 312. As explained above, a binary number equal to the 2's complement of
the market price minus the margin number is present at terminals 1--15, first
input 382, fourth adder 312. The fourth adder 312 therefore generates a binary
number equal the sum of the two input numbers. In accordance with the
principles of complement arithmetic, this sum is equal to the price
accompanying the order, minus the market price, plus the margin number, plus
2.sup.15. If the price accompanying the order is less than the market price
minus the margin number, then this sum is less than 2.sup.15 and there is no
carry output. The carry output terminal 398 is a ground potential. If the
price accompanying the order is equal to or greater than the market_price
minus the margin number, then this sum is equal to or greater than 2.sup.15
and an overflow carry output occurs. The carry output terminal 398 is a
positive potential. The potential appearing at the carry output terminal 398
therefore represents the result of the market comparison test for a priced
order to sell.

DEPR:
If the order being tested is a priced order to buy, the 1's complement of the
price accompanying the order, which occupies bit locations 23--35 of the first
36-bit order word (see the word 220 in FIG. 6) is present in the form of a 1's
complement binary number appearing at terminal 3--15, output 320, buy-sell
price index register 302. This 1's complement binary number is applied to
terminals 3--15, second input 350, third adder 310. Terminals 1--2, second
input 350, third adder 310 are already positive, and fill out the remaining
two bits of the 1's complement number applied to the second input 350. Carry
input 356, third adder 310 is positive, and this adds "1" to the sum appearing
at the output of the third adder 310. As explained above, a binary number
equal to the sum of the market price plus the margin number is present at
terminals 1--15, first input 348, third adder 310. The third adder 310
therefore generates a binary number equal to the sum of the two input numbers,

plus "1" due to the positive potential at the carry input, terminal 356. In accordance with the principles of complement arithmetic, this sum is equal numerically to the market price, plus the margin number, minus the price accompanying the order, plus 2.sup.15. If the price accompanying the order is greater than the market price plus the margin number, then this sum is less than 2.sup.15 and there is no overflow carry output. The carry output terminal 354 is at a positive potential. The potential appearing at the carry output terminal 354 therefore represents the result of the market comparison test for a priced order to buy.

DEPR:
The binary number appearing at terminal 2, output 320, buy-sell price index register 302 determines which of the above-mentioned tests results is stored in the first two flip-flops within the market price index register 300. If the order under test is an order to buy, a "1" appears at terminal 2, output 320, buy-sell index register 302. This "1" appears because all orders to buy contain a "1" in bit location 22 within the first order word, as shown in FIG. 6, and because the contents of this bit location are placed into the second flip-flop within the buy-sell index register 302 (FIG. 7), as explained above. This "1" is applied to input 376, second AND gate 316 (FIG. 7), enabling the second AND gate 316, and effectively connecting the remaining input 374, second AND gate 316 to the output 379, second AND gate 316. When this happens, the potential at the carry output terminal 354, third adder 310 is directly applied to the set second bit terminal 380. This "1" is also converted to a "0" by the NOT gate 318 and is applied to input 370, first AND gate 314. The first AND gate 314 is disabled by this potential, and the set first bit terminal 378 remains at ground potential regardless of the potential at carry output terminal 398, fourth adder 312. In this manner, the order to buy test results are conveyed from the carry output terminal 354, third adder 310, to the second flip-flop within the market price index register 300, and a "1" is placed in this location whenever a priced order to buy is tested and found to have a price that is lower than or equal to the market price plus the margin number.

DEPR:
If the order under test is an order to sell, a "0" appears at terminal 2, output 320, buy-sell index register 302. This "0" appears because all orders to sell contain a "0" in bit location 22 within the first order word, as shown in FIG. 6, and because the contents of this bit location are placed into the second flip-flop within the buy-sell index register 302 (FIG. 7), as explained above. This "0" is applied to input 376, second AND gate 316 (FIG. 7), disabling the second AND gate 316, and causing the set second bit terminal 380 to remain at ground potential regardless of the potential at carry output terminal 354, third adder 310. This "0" also converted to a "1" by the NOT gate 318 and is applied to input 370, first AND gate 314, enabling the first AND gate 314 and effectively connecting the remaining input 372, first AND gate 314, to the output 377, first AND gate 314. When this happens, the potential at the carry output terminal 398, fourth adder 312 is directly applied to the set first bit terminal 378. In this manner, the order to sell test results are conveyed from the carry output terminal 398, fourth adder 312 to the first flip-flop within the market price index register 300, and a "1" is placed in this location whenever a priced order to sell is tested and found to have a price that is greater than or equal to the market price minus the margin number.

CLPR:
23. A method as in claim 22 in which the test of whether the market price is substantially below or above the prices of priced buy or sell orders is carried out by the data processor comparison means comparing the market price plus a margin number to the prices of all priced buy orders, and comparing the market price minus a margin number to the prices of all priced sell orders.

CLPV:
sequentially matching all of the buy orders and all of the sell orders within each group that can be compatibly matched, starting by first matching the highest priced buy order to the lowest priced sell order, and by then proceeding sequentially through the remaining buy orders and sell orders at rates that maintain equality at all times between the quantity of goods represented by matched orders to buy and the quantity of goods represented by

matched orders to sell; breaking orders into a plurality of parts when
necessary to maintain this equality; and checking the compatibility of each
match by seeing that the price accompanying each buy order is greater than or
equal to the price accompanying each sell order, using comparison means within
the data processor.

CLPV:
sequentially matching all of the buy orders and all of the sell orders within
each group that can be compatibly matched, starting by first matching the
highest priced buy order to the lowest priced sell order, and by then
proceeding sequentially through the remaining buy orders and sell orders at
rates that maintain equality at all times between the quantity of goods
represented by matched orders to sell, breaking individual orders into a
plurality of parts as necessary to maintain this equality; checking the
compatibility of each match by seeing that the price accompanying each buy
order is greater than or equal to the price accompanying each sell order,
using comparison means within the data processor; and

CLPV:
pairing orders to buy with orders to sell, starting with the order to buy
having the highest price and with the order to sell having the lowest price,
and continuing through the orders sequentially by price, taking unpriced
orders at a price that is related to the established market price, using data
retrieval means of the data processor to seek out and to pair the orders;

CLPV:
sequentially comparing the prices accompanying the orders so paired using
comparison means within the data processor, and locating the last pair of
orders to be matched in which the order to buy is accompanied by a price that
is higher than or equal to the price accompanying the order to sell; and